

**FACT SHEET FOR STATE WASTE DISCHARGE
PERMIT NO. ST-5562**

**Community of Dryden
Publicly-Owned Treatment Works**

SUMMARY

Chelan County Public Utility District (CCPUD) No.1. is seeking reissuance of its State Wastewater Discharge Permit for the Community of Dryden Publicly-Owned Treatment Works (WWTF). CCPUD has operated the Dryden WWTF since its construction in 1981. The Dryden WWTF is located in Chelan County, 12 miles west of Wenatchee, in close proximity to the Wenatchee River. The CCPUD operates three other treatment plants in Chelan County.

The WWTF provides wastewater treatment for approximately 50 residential units. The WWTF consists of collection pipes, a dual chamber septic tank, and drainfield. The facility's record of compliance with its existing permit is good.

The proposed permit requires a Schedule of Compliance be completed. The purpose of the Schedule of Compliance is to assure the discharge of effluent from the treatment plant does not degrade groundwater and surface water quality. The proposed permit requires the Permittee to complete either: 1) a Facility Plan or, 2) a Water Quality Evaluation.

The Wenatchee River has a Total Maximum Daily Load (TMDL) study in progress that addresses elevated pH levels, low dissolved oxygen levels, and elevated water temperature in the Wenatchee River. If the Water Quality Evaluation reveals that the drainfield's effluent is contributing to the problems being addressed by the TMDL, the WWTF may be required to reduce the concentration of phosphorus discharged to the drainfield. Furthermore, if the Water Quality Evaluation reveals hydrologic continuity of effluent discharged to the drainfield with the river water, the following wastewater discharge permit issued five years hence, may be a National Pollution Discharge Elimination System (NPDES) permit.

TABLE OF CONTENTS

	<u>Page</u>
SUMMARY	1
INTRODUCTION	4
GENERAL INFORMATION	5
BACKGROUND INFORMATION	5
DESCRIPTION OF THE COLLECTION AND TREATMENT SYSTEM	5
History	5
Collection System Status	6
Treatment Processes	7
Drainfield Distribution System	7
Residual Solids and Septage Removal	8
PLAN TO MAINTAIN ADEQUATE CAPACITY FEBRUARY 2003 SUMMARY	8
PERMIT STATUS	9
SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT	9
WASTEWATER CHARACTERIZATION	10
PROPOSED PERMIT LIMITATIONS	10
TECHNOLOGY-BASED EFFLUENT LIMITATIONS	10
GROUND WATER QUALITY-BASED EFFLUENT LIMITATIONS	12
COMPARISON OF LIMITATIONS WITH THE EXISTING PERMIT ISSUED AUGUST 3, 2000	13
MONITORING REQUIREMENTS	13
INFLUENT AND EFFLUENT MONITORING	13
OTHER PERMIT CONDITIONS	14
REPORTING AND RECORDKEEPING	14
FACILITY LOADING	14
OPERATIONS AND MAINTENANCE	15
RESIDUAL SOLIDS HANDLING	15
SCHEDULE OF COMPLIANCE	15
GENERAL CONDITIONS	18
RECOMMENDATION FOR PERMIT ISSUANCE	18
REFERENCES FOR TEXT AND APPENDICES	18
APPENDIX A -- PUBLIC INVOLVEMENT INFORMATION	20

APPENDIX B--GLOSSARY	21
APPENDIX C -- APPLICABLE REGULATIONS	25
APPENDIX D -- RESPONSE TO COMMENTS	29

INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No. ST-5562. The Department of Ecology (the Department) is proposing to issue this permit, which will allow discharge of wastewater to waters of the State of Washington. This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

Washington State law (RCW 90.48.080 and 90.48.162) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. Regulations adopted by the State include procedures for issuing permits (Chapter 173-216 WAC), technical criteria for discharges from municipal wastewater treatment facilities (Chapter 173-221 WAC) and water quality criteria for ground waters (Chapter 173-200 WAC). They also establish the basis for effluent limitations and other requirements which are to be included in the permit.

This fact sheet and draft permit are available for review by interested persons as described in Appendix A--Public Involvement Information.

The fact sheet and draft permit have been reviewed by the **Office of Environmental Health & Safety** of the Washington State Department of Health and by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D--Response to Comments

GENERAL INFORMATION	
Applicant	Chelan County Public Utility District No.1
Facility Name and Location	Community of Dryden Publicly-Owned Treatment Works ¼ mile North of the Town of Dryden
Type of Treatment System:	Septic Tank - Drainfield
Discharge Location	Latitude: 47° 32' 37" N Longitude: 120° 33' 39" W
Legal Description of Application Area	SE ¼ Section 27, Range 18 E, Township 24 N SW ¼ Section 26, Range 18 E, Township 24 N
Responsible Official	Name: David L. Johnson, P.E. Title: Director of Water/Wastewater Address: P.O. Box 1231 Wenatchee, WA 98807-1231 Telephone #: 509-663-8121 FAX # 509-661-8148

BACKGROUND INFORMATION

The Community of Dryden is a small, unincorporated community near the south bank of the Wenatchee River, approximately 12 miles west of the City of Wenatchee in Chelan County.

DESCRIPTION OF THE COLLECTION AND TREATMENT SYSTEM

The treatment facilities consist of an influent flow monitoring meter, an influent splitter box with automated flow splitting valves, two 23,000 gallon concrete septic tanks, two 841-gallon dosing tanks, three drainfield zones comprising 1.6 acres (outside perimeter). The drainfield system is located on a point bar terrace, along the south bank of the Wenatchee River, just north of Dryden. The drainfield zones have 4-inch diameter, perforated piping placed in 3-foot wide trenches designed to distribute 1.1 gallons wastewater per square foot of drainfield trench per day.

History

The Chelan County Public Utility District No. 1 constructed the current Community of Dryden Wastewater Treatment Facility in 1981.

In 2004, an upgrade occurred that included the addition of a 24-hour influent flow monitoring meter and automated flow splitting valves. The flow splitting valves ensure that equal volumes of influent are routed to each septic tank.

The existing wastewater treatment facility (WWTF) was designed to accommodate sewage from 50 equivalent residential units (ERU's) in 1981 with the ability to expand to 60 ERU's by 2000. However, the number of connections to the WWTF has stayed nearly constant since 1981, with 50.5 connections in 2003.

Collection System Status

All influent in the collection system flows by gravity.

The system is constructed of non-reinforced concrete pipe with diameters ranging from 8 to 12 inches. These pipes route wastewater to an interceptor line constructed of PVC pipe which conveys the influent to the septic tanks. The collection system includes a bridge crossing into North Dryden. However, the collection system terminates at the north end of the bridge and none of North Dryden is currently served. The pipe is insulated and has heat tape incorporated to prevent freezing during the winter time. According to the 1998 O&M manual for the Dryden Wastewater Facility, this pipe should be inspected annually to make sure that the pipe hangers are secure and the insulation has not been damaged.

The Permittee submitted a report entitled, "*Community of Dryden WWTF Plan to Maintain Adequate Capacity*" to the Department on February 2003. The report was required by the wastewater discharge permit issued August 3, 2000. This document included an *Infiltration and Inflow* section that was also a permit requirement.

The *Infiltration and Inflow* report revealed the following information:

The collection system area is located within well-drained soils that preclude the presence of shallow groundwater. The entire collection system is situated well above the 100 year flood elevation of the Wenatchee River. Thus, infiltration into the collection system has not historically been a problem.

An inflow evaluation was preformed in 1999 to identify any sources of inflow into the collection system. . . . Based on this analysis, the collection system does not appear to experience significant inflow.

The report did identify a private water system that was a source of extraneous flow. Since C.C.P.U.D. informed the owner of potential problems at the treatment plant, significant flows from this source have ceased.

Treatment Processes

The system has continuous influent flow metering and automated influent flow splitting valves that insure flow is split evenly between the two 23,000 gallon septic tanks. Each tank has been constructed with two compartments to increase the solids removal efficiency. Partially treated wastewater from each septic tank fills the tank's respective dosing siphons, which automatically discharge to a drainfield distribution system when filled.

The septic tanks provide a quiescent environment where grit, screenings, and small fractions of organic materials are removed by gravity sedimentation. Anaerobic bacteria within the septic tank reduce the concentration of BOD₅ in the wastewater. Based on average daily historical flows, these septic tanks provide an average wastewater residence time of nearly 3 days.

The following paragraph was excerpted from the USEPA document, *The Class V Underground Injection Control Study; Volume 5, Large-Capacity Septic Systems*, (September 1999):

The primary purpose of a septic tank is to reduce both the solids and organic carbon content of sanitary waste (through facultative and anaerobic decomposition in the bottom of the septic tank). It does this before releasing the effluent to the drainage field. If the system has been properly operated and maintained (and receiving only sanitary waste), then the effluent is likely to contain low levels of organic constituents.

The extent of disinfection of fecal coliforms in the soil profile below the drainfield is undetermined. Anaerobic conditions in the septic tank followed by aerobic conditions drainfield soils may effectively disinfect wastewater before reaching groundwater if the retention time in the soil profile below the drainfield trenches and above the groundwater table is adequate.

Drainfield Distribution System

The drainfield system consists of three similarly sized drainfield zones, situated in close proximity to each other. The outer perimeter of the drainfield system occupies a total area of approximately 1.6 acres. The entire point bar terrace where the drainfield is situated is approximately eight acres in extent. Each drainfield zone has approximately 3,400 feet of four-inch diameter perforated plastic piping enveloped in filter gravel within a trench three feet wide.

Valving to the drainfield zones is provided to allow effluent from either dosing siphon to be discharged (gravity flow) into the distribution box of any of the three drainfields. Under normal operation two of the three drainfields are in service, while the third drainfield is allowed to rest. This allows each drainfield to rest every third year.

According to the 2003 Plan to Maintain Adequate Capacity, during November 2002 seven of the piping inspection ports in the active drainfields were randomly selected, then inspected. The interior of all piping appeared to be in excellent condition with no evident solids accumulation,

breakage or damage. A shallow layer of water was present in the bottom of one of the ports. The remaining six ports were dry to slightly damp, indicating the surrounding soil is adequately accommodating effluent at the applied rates.

The following was excerpted from Attachment E5 of the permit application:

The geology of the Dryden area consists of shallow alluvial deposits underlain by rock formations. Groundwater resources of the area are closely related to the surface water resources in that groundwater depends on the flow of surface streams. Groundwater is predominantly restricted to the river valleys that contain deposits of alluvial materials.

The following soil survey is from the WWTF Plan to Maintain Adequate Capacity and was adapted from the Natural Resource Conservation Service's soil survey:

The major soil association in the Dryden area is the Burch-Cashmont, described as dominantly medium-textured and moderately coarse textured, nearly level to strongly sloping soils on terraces, alluvial fans, and foot slopes. The soils underlying the existing wastewater treatment facility site include Beverly gravelly fine sandy loam and Peshastin loam.

Residual Solids and Septage Removal

The treatment facility has no headworks influent screening prior to entry into the septic tank, and the effluent is discharged directly to drainfields. Therefore, septage is the only type of residual solid produced. Septage is the biodegradable waste from septic tanks and similar treatment works. Septage includes the sediments, water, grease and scum pumped from a septic tank.

The depth of settled solids and surface scum is measured annually through access ports in the top of each septic tank. Before the accumulation of these materials reaches a level in the tank that it is likely to be discharged with the tank's effluent, a local septage hauler is contracted to pump out the tanks. Historically, the septic tanks have been pumped at intervals of five years or greater, according the Plan to Maintain Adequate Capacity. However, the protocol in the facility's Operating and Maintenance Manual calls for septage to be removed from the septic tank at a minimum of once every 3 years.

PLAN TO MAINTAIN ADEQUATE CAPACITY FEBRUARY 2003 SUMMARY

The existing permit, issued August 3, 2000, required the submittal of a Plan to Maintain Adequate Capacity (PMAC) and an Infiltration and Inflow Report (S4.B and S4.D, respectively). The Permittee submitted the PMAC with an enclosed Infiltration and Inflow (I&I) Report on February 28, 2003.

The Plan's Summary and Recommendation sections brought forth these salient facts:

- The existing facility should be capable of continued service while accommodating the design maximum day flow of 0.023 MGD.
- Inflow and infiltration do not appear to be a significant component of the existing flows. However, the collection system evaluation performed in February 2003 discovered one source of extraneous flow, possibly leaking plumbing, contributing to the system [*This is not technically inflow or infiltration*]. The PUD intends to work with individual customers to further identify, reduce, and eliminate this source of extraneous water.
- In order to maintain adequate capacity, the PUD will not allow any additional connections to the sewage system until the extraneous flows observed in January 1999 and January 2003 have been identified and reduced such that the total flow entering the treatment facility is less than the permitted capacity of 0.023 MGD.

The Department accepted these submissions on May 14, 2003. The Department voiced two concerns regarding the contents of the PMAC. First, it was revealed during a Department inspection that the treatment system did not evenly split the effluent between the two septic tanks. This resulted in the uneven distribution of wastewater to the drainfields. The PUD corrected this deficiency with the 2004 upgrade. Secondly, while the PMAC did not reveal significant infiltration or inflow, the PMAC did reveal a significant source of extraneous flow into the collection system. The Department responded in the acceptance letter that identifying and eliminating this source of flow is vital to reducing influent flows in order to maintain adequate capacity.

PERMIT STATUS

The existing permit for this facility was issued on August 3, 2000. This was a reauthorized permit, since the existing fact sheet and permit requirements were retained unchanged from the permit and fact sheet issued in 1996.

An application for permit renewal was submitted to the Department on July 9, 2004 and accepted by the Department on July 21, 2004.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection on January 20, 2005. At that date, the new flume for the influent flow measurement and splitter valves that ensure equal partitioning of influent between the two septic tanks had been installed.

During the history of the previous permit, the Permittee has remained in compliance based on Discharge Monitoring Reports (DMRs) for the BOD₅, TSS, and pH daily maximum permit limits.

From January 2002 to April 2005, the volume of influent to the septic tanks exceeded the maximum daily flow limit volume nine times out of 162 weekly sampling events.

WASTEWATER CHARACTERIZATION

The concentration of pollutants in the discharge was reported in the permit application and in discharge monitoring reports. The proposed wastewater discharge prior to land treatment is characterized for the following parameters:

Table 1: Wastewater Characterization - January 2002 through June 2005

Parameter	Average Quarterly Concentration	Maximum Concentration
Biological Oxygen Demand (5-day) (mg/L)	92	148
Carbonaceous Biological Oxygen Demand (5-day) (mg/L)	72	132
Total Suspended Solids (mg/L)	37	60
Total Kjeldahl Nitrogen (TKN)(mg/L)	40	54
Parameter	Average Monthly Flow Rate	Maximum Weekly Flow Rate
Flow (Gallons per Day)	15,400	36,000
Parameter	Average Monthly Minimum Value	Monthly Maximum Value
pH (standard units)	6.7	7.3

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be either technology- or water quality-based. Wastewater must be treated using all known, available, and reasonable treatment (AKART) and not pollute the waters of the State. The minimum requirements to demonstrate compliance with the AKART standard are found in: 1) *Criteria for Sewage Works Design* (WA State Dept. of Ecology, 1998), 2) *Design Standards for Large On-Site Sewage Systems With Design Flows of Greater Than 3,500 Gallons Per Day* (WA State Dept. of Health, 1994), 3) *Implementation Guidance for Ground Water Quality Standards* (WA State Dept. of Ecology, 1996) and, 4) Chapter 173-240 WAC.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

The State's minimum requirements to demonstrate compliance with the AKART tech-based standards for On-site systems are: 1) *Criteria for Sewage Works Design* (WA State Dept. of Ecology, 1998), 2) Chapter 173-240 WAC Submission Of Plans And Reports For Construction Of Wastewater Facilities, 3) Chapter 246-272B WAC Large On-Site Sewage System

Regulations and, 4) *Design Standards for Large On-Site Sewage Systems With Design Flows of Greater Than 3,500 Gallons Per Day* (WA State Dept. of Health, 1994).

The purpose of the *Criteria for Sewage Works Design* is intended to ensure construction of new sewage treatment works meet state standards. Since this publication post-dates the construction of the Dryden WWTF, it is the best professional judgment (BPJ) of this permit writer that the publication's criteria do not apply to the Dryden facility.

Chapter 173-240 WAC is intended to regulate the construction of new wastewater treatment facilities and WAC 173-240-035 is the specific section of this regulation that addresses subsurface wastewater disposal systems. The Dryden WWTF drainfield was constructed in 1981, before the effective date (August 11, 2000) of WAC 173-240-035. Since this facility pre-dates this regulation, it is the best professional judgment of this permit writer that the regulation does not apply to the facility.

The large on-site sewage systems (LOSS) design standards given in the Department of Health's regulation Chapter 246-272B apply to wastewater treatment facilities with design flows between 3,500 and 14,500 gpd. Although the Dryden WWTF design flow is 23,000 gpd, it is the best professional judgment of this permit writer that the regulation applies to the facility.

The proposed permit includes tech-based limitations on the quantity and quality of the wastewater applied to the drainfield that are retained from the existing permit. The existing permit was a reauthorized permit from 1996. The existing permit's effluent limits are based on the following technology-based effluent guidance given in the Department of Health's *Design Standards for Large On-Site Sewage Systems With Design Flows of Greater Than 3,500 Gallons Per Day* (1994):

- Biochemical Oxygen Demand (5-day): shall be less than 230 mg/L before discharge to the drainfields.
- Total Suspended Solids: shall be less than 150 mg/L before discharge to the drainfields.

Also, the hydraulic loading limitation in the existing permit is drawn from guidance in the Dept. of Health document. Since the Department of Ecology has not promulgated a regulation for existing On-Site facilities, nor has it issued specific guidance for such facilities, it is the Best Professional Judgment of this permit writer that the tech-based effluent limitations in the existing permit, based on the Department of Health guidance, will apply in the proposed permit. It should be noted that Health's guidance document specifies that all drainfield piping be pressurized. The Dryden drainfield piping is not pressurized. Instead, the effluent flows through the piping by gravity.

GROUND WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's ground waters including the protection of human health, WAC 173-200-100 states that waste discharge permits shall be conditioned in such a manner as to authorize only activities that will not cause violations of the Ground Water Quality Standards. Drinking water is the beneficial use generally requiring the highest quality of ground water. Providing protection to the level of drinking water standards will protect a great variety of existing and future beneficial uses.

Applicable ground water criteria as defined in Chapter 173-200 WAC and in RCW 90.48.520 for this discharge include the following:

Table 2: Ground Water Quality Criteria

Total Coliform Bacteria	1 Colony/ 100 mL
Total Dissolved Solids	500 mg/L
Chloride	250 mg/L
Sulfate	250 mg/L
Nitrate	10 mg/L
pH	6.5 to 8.5 standard units
Manganese	0.05 mg/L
Total Iron	0.3 mg/L
Toxics	No toxics in toxic amounts

The Department has reviewed existing records and is unable to determine if background ground water quality is either higher or lower than the criteria given in Chapter 173-200 WAC. No recent upgradient background data or down-gradient data are available for the listed pollutants.

The point of compliance for determining compliance with Ground Water Quality Criteria in this instance would be a properly located monitoring well(s). Groundwater monitoring wells should be located down-gradient from the drainfields. Together with properly located upgradient monitoring wells, samples obtained from the ground water will reveal the extent to which the WWTF is contributing to any degradation of ground water pollution. The proposed permit will not impose any ground water quality-based effluent limitations. The proposed permit requires the Permittee to collect background and down-gradient concentrations near the point of discharge according to the provisions given in the Water Quality Evaluation (S7.B. Water Quality Evaluation). This information may result in a permit modification or groundwater quality-based effluent limits in the next renewal. The proposed permit offers an alternative to the Water Quality Evaluation. The Permittee may choose instead to submit a Facility Plan that sets forth an alternative wastewater treatment method that protects ground and surface water quality.

The existing permit and fact sheet mistakenly gives a pH limitation based on the 1994 Dept. of Health guidance document for On-Site sewage systems. This document has no guidance for pH tech-based limits, and in fact makes no mention of pH. Furthermore, the Department of Ecology's guidance document, *Implementation Guidance for the Ground Water Quality Standards* does not list pH as a parameter of concern for effluent discharged to ground from domestic septic systems or On-Site treatment systems. The proposed permit retains the existing pH limit and monitoring requirement for pH based on the permit writer's Best Professional Judgment, since there is a State Ground Water Quality criterion for pH.

Ecology has a regulation for underground injection wells in Chapter 173-218 WAC - Underground Injection Control Program, which was promulgated to protect Underground Sources of Drinking Water. The drainfield disposal of wastewater is classified as a Class V injection well, under this regulation. WAC 173-218-090 states that the operators of existing (at the date of enactment) municipal Class V wells must apply to the Department for approval to operate, effectively regulating the discharge under the provisions of Chapter 173-216 WAC State Waste Discharge Permit Program. CCPUD has essentially complied with this regulation when it submitted in Application for a State Wastewater Discharge Permit.

COMPARISON OF LIMITATIONS WITH THE EXISTING PERMIT ISSUED AUGUST 3, 2000

The proposed permit retains the permit limitations given in the existing permit. The proposed permit's Water Quality Evaluation (S7.A) is required to determine the adequacy of these limitations to protect ground and surface water quality. Alternatively, the Permittee may elect to forego the Water Quality Evaluation in favor of an Engineering Report (S7.B). The Engineering Report shall set forth a plan that is protective of surface and ground water quality.

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, that ground water criteria are not violated, and that effluent limitations are being achieved (WAC 173-216-110).

INFLUENT AND EFFLUENT MONITORING

The monitoring and testing schedule is detailed in the proposed permit under Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

The proposed permit requires that the constituents in the following table be routinely monitored:

Table 3: Monitoring Rationale

Parameter	Rationale
Total Nitrogen ^a	To determine compliance with ground and surface water quality standards
Chloride ^a	To determine compliance with ground and surface water quality standards
Total Dissolved Solids (TDS) ^a	To determine compliance with ground and surface water quality standards
Biochemical Oxygen Demand (BOD ₅)	To determine compliance with tech-based limit
Total Suspended Solids (TSS)	To determine compliance with tech-based limit
Influent Flow	To determine compliance with tech-based limit
Phosphorus	Wenatchee River TMDL Constituent of Concern
pH	To determine compliance with the State Ground Water Quality Standards
^a Listed in the <i>Implementation Guidance for Ground Water Quality Standards</i> as a constituent for concern in On-Site Sewage Systems.	

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 273-216-110).

FACILITY LOADING

The design criterion for this treatment facility is: Maximum Daily Flow Design, 0.023 MGD. This hydraulic loading rate is conservative, based on the drainfield trench acreage available and the guidance given in the Department of Health's *Design Standards for Large On-Site Sewage Systems With Design Flows of Greater Than 3,500 Gallons Per Day*.

The permit requires the Permittee to maintain adequate capacity to treat the flows and waste loading to the treatment plant (WAC 173-216-110[4]). The Permittee is required to submit an engineering report when the plant reaches 85% of its flow. For significant new discharges, the permit requires a new application and an engineering report (WAC 173-216-110[5]). The permit requires the Permittee to submit Wasteload Assessment (S4.C.) comparing the actual flow to the design criterion for the plant.

OPERATIONS AND MAINTENANCE

The proposed permit contains condition S.5. as authorized under RCW 90.48.110, WAC 173-220-150, Chapter 173-230 WAC, and WAC 173-240-080. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

The proposed permit requires an updated O&M Manual. The updated manual is required to include a schematic that revises the existing Appendix E - Facility Information so that it includes the details of the recent 2004 upgrade.

RESIDUAL SOLIDS HANDLING

To prevent water quality problems the Permittee is required in Special Condition S6. to store and handle all residual solids (grit, screenings, scum, sludge, and other solid waste) in accordance with the requirements of RCW 90.48.080 and State Water Quality Standards.

The final use and disposal of sewage sludge and septage from this facility is regulated by U.S. EPA under 40 CFR 503, and by Ecology under Chapter 173-308 WAC, "Biosolids Management". The management of other solid waste is regulated by local jurisdictional health departments through local ordinances and WAC 173-350 and WAC 173-351.

Under state law, biosolids includes both municipal sewage sludge and septage that meet applicable criteria. The septage removed from the facility's septic tanks is categorized as Class I septage based on the definition in the Department's Biosolids Rule given in Chapter 173-308 WAC. The septage produced by this facility may be classified as a biosolids, if the requirements in Chapter 173-308 WAC are met.

The Department has determined that the Permittee does not require a biosolids permit. However, the contractor that removes the septage from the tank may be required to possess a biosolids permit by the local health jurisdiction. The solids removed from the septic tank are required to be handled in accordance with the local jurisdictional health departments and Department of Ecology regulations.

SCHEDULE OF COMPLIANCE

The proposed permit requires that either a Water Quality Evaluation be conducted or a Facility Plan for the Community of Dryden be prepared and submitted to the Department. The proposed permit further requires that the Permittee be in compliance with surface and/or ground water quality standards, including any wasteload allocations assigned as a result of the Total Maximum Daily Load (TMDL) process, no later than **January 1, 2016**.

The TMDL process is established by Section 303(d) of the federal Clean Water Act (CWA). Federal law requires States to identify sources of pollution in waters that fail to meet State Water Quality Standards, and to develop Water Cleanup Plans to address those pollutants. The TMDL establishes limits on pollutants that can be discharged to the waterbody and still allow state standards to be met.

Surface and ground water sampling in the river conducted by the Department in support of the Wenatchee River Basin Multi-parameter TMDL has revealed elevated concentrations of Phosphorus near the Community of Dryden (as well as other reaches of the river). Phosphorus is a nutrient that causes increased aquatic plant growth in the river. The increased plant growth in turn causes the pH of the river's water to exceed State water quality standards. Excess plant growth can also lead to low dissolved oxygen concentrations in the river.

The TMDL assessment has studied diffuse loadings of pollutants along consecutive stretches of the Wenatchee River, from just above its mouth at river mile 0.5 through river mile 54 near Lake Wenatchee. The TMDL assessment has discovered diffuse loading to a stretch of the Wenatchee River from groundwater of 4.5 kilograms per day of ortho-phosphate (inorganic phosphorus) in the river segment near the Dryden WWTF. The diffuse ortho-phosphate load from groundwater was calculated as the residual of a mass balance of ortho-phosphate in the river. Groundwater water-quality samples obtained from piezometers placed in the river's bed just downstream of the Dryden WWTF at river mile 15.9 indicated higher P concentrations than other similar samples in the watershed. The ortho-phosphate loading from this stretch of river represents a significant portion of the assimilative capacity for ortho-phosphate in the lower Wenatchee River.

The following information was excerpted from the Draft Wenatchee River Basin Total Maximum Daily Load For Dissolved Oxygen, Ph, And Fecal Coliform: " High levels of inorganic-P and nitrate (e.g., ranges of 79-250 ug/L of ortho-P and 2-3.5 mg/L of nitrate) were found in groundwater samples taken from piezometers located below the city of Dryden's community drainfield. This drainfield is located on a point of the riverbank and is a likely source of high nutrients in the groundwater, although other upland land use practices, such as the land application of process water by the local fruit processors, may contribute as well."

Recent testing by CCPUD staff of effluent from the Dryden POTW indicates a contribution of 0.3 kg/day ortho-phosphate loading to the drainfield. While the Department's sampling efforts may not have proved conclusively that the discharge of wastewater through the drainfield at Dryden is the direct or only cause of the high ortho-phosphate concentrations in the ground water samples, it is suspected as being a significant contributor to the problem. Therefore, further monitoring for ortho-phosphate in the groundwater upgradient and down-gradient from the treatment plant is warranted.

If the Permittee chooses to conduct a Water Quality Evaluation, the results of the evaluation may show a hydrologic connection of the effluent discharged to ground water with the surface water of the river. In that event, the USEPA has provided the following guidance: "If, on the other

hand, there is a discharge to groundwater that results in a "hydrological connection" to a nearby surface water, the Director may require the discharger to apply for an NPDES permit." [Training Manual for NPDES Permit Writers, USEPA 1993]

A Water Quality Evaluation requires the monitoring of ground water quality at the site in accordance with the Ground Water Quality Standards, Chapter 173-200 WAC, in order to determine the extent of the potential to pollute the ground water. The hydrogeologic study will be based on soil and hydrogeologic characteristics and be capable of assessing impacts of the WWTF's discharge on ground water and the adjacent Wenatchee River. The guidelines given in *Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems* (Ecology 1993) and the *Implementation Guidance for the Ground Water Quality Standards* (Ecology 1996) are appropriate for municipal land application systems. Therefore, a thorough analysis of the soil profile is a necessary component of any plan to continue discharging effluent to the point-bar terrace where the drainfield is currently located.

Information in the Department's files indicates the presence of two monitoring wells situated near the Dryden drainfield. These are referred to as the east and west monitoring wells. The fact sheet from the permit issued in 1996 states that the downgradient monitoring well (east well) was not capturing drainfield effluent. Therefore, if the Water Quality Evaluation is selected to be conducted, the associated Sampling and Analysis Plan is required to evaluate the effectiveness of the existing monitoring wells to reliably characterize ground water quality and provide ground water monitoring data.

There are reasons to suspect that the Dryden WWTF drainfield is under-sized for the current rates of hydraulic loading and organic loading, based on guidance and/or regulations from the United States Environmental Protection Agency (USEPA) and Washington State's Department of Health.

The USEPA guidance [On-Site Wastewater Treatment Systems Manual] also advises a range of hydraulic loading and organic loading based on soil textural classification. The document's Table 4-3. Suggested hydraulic and organic loading rates for sizing infiltration surface, with the gravelly fine sandy loam at the Dryden site, the maximum recommended hydraulic loading rate is 0.45 gallons/square foot/day. The area of two operating drainfields is approximately 20,400 square feet; therefore the maximum hydraulic loading should be 9,181 gallons per day. The facility's effluent 95th percentile hydraulic effluent loading is 23,000 gallon/day, as reported on the DMRs.

EPA's average recommended organic loading rate is 0.28 lbs BOD₅ / 1000 square foot/day, based on the soil classification given in Table 4-3. Therefore, the loading rate values given above, the maximum daily organic loading rate to the drainfield should be 5.0 lbs/ BOD₅ per day. The facility's effluent 95th percentile BOD₅ loading is 22 lbs/day, as reported on the DMRs.

The Department of Health's recommended maximum hydraulic loading rate is 0.7 gallons/square foot/day. This is based on the soil textural classification from WAC 246-272-11501. Given 20,400 square feet of drainfield surface available for infiltration, the maximum hydraulic loading rate at the Dryden drainfield would work out to 14,280 gallons per day.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to ground water permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to submit written notice of significant increases in the amount or nature of discharges (typically new industrial discharges) into the sewer system tributary to the permitted facility. Condition G6 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G7 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Condition G8 requires application for permit renewal 60 days prior to the expiration of the permit. Condition G9 requires the payment of permit fees. Condition G10 describes the penalties for violating permit conditions.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, and to protect human health and the beneficial uses of waters of the State of Washington. The Department proposes that the permit be issued for 5 years.

REFERENCES FOR TEXT AND APPENDICES

Faulkner, S.P., Patrick Jr., W.H., Gambrell, R.P., May-June, 1989. Field Techniques for Measuring Wetland Soil Parameters, Soil Science Society of America Journal, Vol. 53, No.3.

Laws and Regulations. (<http://www.ecy.wa.gov/laws-rules/index.html>)

Permit and Wastewater Related Information
(<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>)

USEPA, February 2002. Onsite Wastewater Treatment Systems Manual, EPA/625/R-00/008.
USEPA (1993). Training Manual for NPDES Permit Writers. EPA/B-93-003. Office of
Wastewater Management.

Washington State Department of Ecology, 1993. Guidelines for Preparation of Engineering
Reports for Industrial Wastewater Land Application Systems, Ecology Publication # 93-36. 20
pp.

Washington State Department of Ecology and Department of Health, 1997. Water Reclamation
and Reuse Standards, Ecology Publication # 97-23. 73 pp.
Washington State Department of Ecology.

Washington State Department of Ecology, 1996. Implementation Guidance for the Ground
Water Quality Standards, Ecology Publication # 96-02.

Washington State Department of Ecology, 1998. Criteria for Sewage Works Design, Ecology
Publication No. 98-37 WQ.

Washington State Department of Health; Office of Environmental Health & Safety, December
1993 (Amended July 1994). Design Standards for Large On-Site Sewage Systems With Design
Flows of Greater Than 3,500 Gallons Per Day.

Washington State University, November, 1981. Laboratory Procedures - Soil Testing
Laboratory. 38 pp.

APPENDIX A -- PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on July 15, 2004 in the Wenatchee World to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on September 29, 2005 in the Wenatchee World to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator
Department of Ecology
Central Regional Office
15 West Yakima Avenue, Suite 200
Yakima, WA 98902

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the 30 day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least 30 days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within 30 days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, 509/457-7105, or by writing to the address listed above.

This permit was written by Jim Leier.

APPENDIX B--GLOSSARY

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation--The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of the collection or treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring --Uninterrupted, unless otherwise noted in the permit.

Distribution Uniformity--The uniformity of infiltration (or application in the case of sprinkle or trickle irrigation) throughout the field expressed as a percent relating to the average depth infiltrated in the lowest one-quarter of the area to the average depth of water infiltrated.

Engineering Report--A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Soil Scientist--An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and have 5,3,or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria--A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

Total Dissolved Solids--That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent pollution of the receiving water.

APPENDIX C -- APPLICABLE REGULATIONS

Chapter 173-218 WAC UNDERGROUND INJECTION CONTROL PROGRAM

WAC 173-218-010 Purpose. (1) The purpose of this chapter is to set forth the procedures and practices applicable to the injection of fluids through wells.

(2) Permits issued in accordance with the provisions of this chapter are designed:

(a) To satisfy the intent and requirements of Part C of the Federal Safe Drinking Water Act (SDWA) 42 U.S.C. § 300h et seq. as authorized by RCW 43.21A.445 and of the Water Pollution Control Act, chapter 90.48 RCW; and

(b) To preserve and protect ground waters, including underground sources of drinking water, for existing and future beneficial uses.

Statutory Authority: RCW 43.21A.445. 84-06-023 (Order DE 84-02), § 173-218-010, filed 2/29/84.]

WAC 173-218-030 Definitions.

(1) "Beneficial uses" shall include, among others, uses for domestic water, irrigation, fish, shellfish, game, and other aquatic life, municipal, recreation, industrial water, generation of electric power, and navigation.

(2) "Class I injection well" means a well used to inject industrial, commercial, or municipal waste fluids beneath the lowermost formation containing, within 1/4-mile of the well bore, an USDW.

(3) "Class II injection well" means a well used to inject fluids:

(a) Brought to the surface in connection with conventional oil or natural gas exploration or production and may be commingled with wastewaters from gas plants which are an integral part of production operations, unless those waters are classified as dangerous wastes at the time of injection;

(b) For enhanced recovery of oil or natural gas; or

(c) For storage of hydrocarbons which are liquid at standard temperature and pressure.

(4) "Class III injection well" means a well used for extraction of minerals, including but not limited to the injection of fluids for:

(a) In-situ production of uranium or other metals that have not been conventionally mined;

(b) Mining of sulfur by Frasch process; or

(c) Solution mining of salts or potash.

(5) "Class IV injection well" means a well used to inject dangerous or radioactive waste fluids.

(6) "Class V injection well" means all injection wells not included in Classes I, II, III, or IV.

[Statutory Authority: RCW 43.21A.445. 84-06-023 (Order DE 84-02), § 173-218-030, filed 2/29/84.]

WAC 173-218-040 Authorization required. No fluids may be injected through wells except as authorized pursuant to this chapter.

[Statutory Authority: RCW 43.21A.445. 84-06-023 (Order DE 84-02), § 173-218-040, filed 2/29/84.]

WAC 173-218-090 Class V injection wells. (2) All persons operating an existing Class V injection well, that inject industrial, commercial, or municipal waste fluids into or above an USDW, must apply to the department for approval to operate within one year of the effective date of this regulation. The department will accept, process, and act upon the application in accordance with the procedures and practices of the State waste discharge permit program, chapter 173-216 WAC.

[Statutory Authority: RCW 43.21A.445. 84-06-023 (Order DE 84-02), § 173-218-090, filed 2/29/84.]

WAC 173-218-100 Permit terms and conditions.

(1) Any permit issued by the department shall specify conditions necessary to prevent and control injection of fluids into the waters of the state, including the following, whenever applicable:

(a) All known, available, and reasonable methods of prevention, control, and treatment;

(b) Applicable requirements as contained in 40 Code of Federal Regulations Parts 124 and 144 as published in Federal Register Volume 48, #64 (April 1, 1983) and Part 146 as published in Federal Register Volume 45, #123 (June 24, 1980), Volume 46, #166 (August 27, 1981) and Volume 47, #23 (February 3, 1982); and

(c) Any conditions necessary to preserve and protect USDW.

(2) Any injection well that causes or allows the movement of fluid into an USDW that may result in a violation of any primary drinking water standard under 40 Code of Federal Regulations Part 141 or that may otherwise adversely affect the beneficial use of an USDW is prohibited.

[Statutory Authority: RCW 43.21A.445. 84-06-023 (Order DE 84-02), § 173-218-100, filed 2/29/84.]

**Chapter 246-272B WAC LARGE ON-SITE SEWAGE SYSTEM
REGULATIONS**

WAC 246-272B-03001 Applicability. (4) The Washington state department of ecology has authority and approval over:

(a) Domestic or industrial wastewater under chapter 173-240 WAC; and

**Chapter 173-240 WAC SUBMISSION OF PLANS AND REPORTS FOR
CONSTRUCTION OF WASTEWATER FACILITIES**

WAC 173-240-020 Definitions. (5) "Domestic wastewater facility" means all structures, equipment, or processes required to collect, carry away, treat, reclaim or dispose of domestic wastewater together with the industrial waste that may be present. In the case of subsurface sewage treatment and disposal, the term is restricted to mean those facilities treating and disposing of domestic wastewater only from:

(a) A septic tank system with subsurface sewage treatment and disposal and an ultimate design capacity exceeding fourteen thousand five hundred gallons per day at any common point; or

WAC 173-240-035 Restrictions -- Subsurface disposal systems. Domestic wastewater facilities using subsurface sewage treatment and disposal, as defined in WAC 173-240-020(5), are prohibited except under those extraordinary circumstances where no other reasonable alternatives exist and: Providing that

(1) The facility is owned, operated, and maintained by a public entity, except as noted in WAC 173-240-104; and

(2) Adequate facility construction oversight is provided by the public entity; and

(3) The proposed project is consistent with local health and land use rules; and

(4) Loading rates do not exceed 1,570 gallons per day per acre of gross land area in medium sands or finer grained soils and may not exceed 900 gallons per day per acre of gross land in coarser grained soils or other soils where conditions do not provide for adequate treatment. For the purposes of this section gross land area is defined as the contiguous land area of a proposed development that might include the centerline of adjoining road or street right-of-ways.

**EPA -- CLASS V INJECTION WELL TYPES
NAME OF WELL TYPE AND DESCRIPTION**

Well Code: 5W32

Septic Systems (Drainfield Disposal Method) – are used to inject the waste or effluent from a multiple dwelling, business establishment, community, or regional business establishment septic tank. Examples of drainfields include drain or tile lines, and trenches. Must serve more than 20 persons per day if receiving solely sanitary wastes. (More treatment per square area than 5W31) car washes, laundromat, steam cleaners.

- *Washington State does allow certain types of Class II and Class V wells:*
 - *Class V wells that are allowed are those **not** used to inject industrial, **municipal** or waste fluids into or above an Underground Source of Drinking Water (USDW). Class V wells that are used to inject uncontaminated stormwater, heat pump return water, aquifer storage and recovery water, water undergoing remediation via pump-and-treat processes at leaking underground storage tank (LUST) sites, or other fluid deemed appropriate by the Washington State Department of Ecology, are allowed in Washington.*
 - *All **existing** and new Class V wells must apply to the UIC Program for approval. {WAC 173-218(2)(3)} The application will include the information needed to satisfy the requirements of 40 Code of Federal Regulations (CFR) Part 146.52.*

APPENDIX D -- RESPONSE TO COMMENTS

The Department received the following comments to the Public Review draft permit and fact sheet from Craig Riley with the Washington State Department of Health's Water Reclamation & Reuse Section within Health's Division of Environmental Health:

Comment

"My only concern is on Page 12 of the Fact Sheet where the permit writer discusses protection of ground water quality to the level of protection of drinking water standards. Please note that in the production and reuse of reclaimed water for ground water recharge via surface percolation or direct recharge, a much higher level of treatment with much higher levels of reliability are required to be able to produce an effluent that is satisfactory for the protection of the ground water supply and reuse after residence time in an acceptable environmental buffer. Septic tanks and drainfields can NOT provide adequate treatment, especially for total coliform as an indicator of microbial quality, especially virus reduction, organic chemical attenuation, disinfection by products and many other contaminants of concern in drinking water quality.

This fact sheet should acknowledge that if adequate source protection and control is practiced to reduce the potential for industrial and house hold chemicals from being dumped into the sewer, this level of treatment will not significantly degrade the ambient water quality with respect to drinking water maximum contaminant levels after the drainfield effluent is adequately diluted by local ground waters."

The Department's Response:

The Department acknowledges that septic tank/drainfield treatment of wastewater is not, in many cases, adequate to meet standards given in RCW 90.46 (Reclaimed Water). In light of this fact, the permit requires that the Permittee comply with a Schedule of Compliance in order to assure compliance with the State's ground water and surface water quality standards.